

CLAIMS

What is claimed is:

1. A surgical instrument, comprising:

an elongate housing having two housing parts;

a support arm disposed between the housing parts and having opposite axial ends, with one of the axial ends connected to a rear end of the housing parts;

a functional unit configured for attachment to the other one of the axial ends of the support arm, thereby spreading the housing parts apart, wherein the functional unit includes a rod and an operating member acted upon by the rod, as the housing parts are squeezed together; and

a force-transmitting unit having an adjusting member operatively connected to the rod, for translating a movement of the housing parts in a direction substantially transverse to the support arm, as the housing parts are squeezed together, into a linear axial movement of the adjusting member, to thereby actuate the operating member via the rod.

2. The surgical instrument of claim 1, wherein the support arm has a head portion configured for threaded engagement of the functional unit, said head portion having an axial bore for guiding the adjusting member upon movement in axial direction.

3. The surgical instrument of claim 2, wherein the support arm has an axial slot connected to the axial bore for guiding the adjusting member during displacement in axial direction while being prevented therein from rotating.

4. The surgical instrument of claim 1, wherein the force-transmitting unit includes at least two rollers mounted in confronting disposition on opposite inner walls of the housing parts, said rollers interacting with the adjusting member.

5. The surgical instrument of claim 4, wherein the adjusting member has a wedge-shaped head having two sliding surfaces bearing upon the rollers.

6. The surgical instrument of claim 5, wherein the sliding surfaces are flat and converge to a common pointed end.

7. The surgical instrument of claim 5, wherein the sliding surfaces are concave and converge to a common pointed end.

8. The surgical instrument of claim 5, wherein the sliding surfaces are convex and converge to a common pointed end.

9. The surgical instrument of claim 1, wherein the force-transmitting unit has a pantographic linkage including a plurality of links hinged to one another, said pantographic linkage being mounted at confronting inner walls of the housing parts and to the adjusting member.

10. The surgical instrument of claim 9, wherein the inner walls of the housing parts define tracks and wherein the support arm has a slot, said pantographic linkage guided and prevented from rotating in the tracks and having one end secured to the adjusting member and guided and prevented from rotating in the slot.

11. The surgical instrument of claim 9, wherein the adjusting member has a bracket of substantially inverted C-shaped configuration for hinged connection to the pantographic linkage by bolts.

12. The surgical instrument of claim 1, wherein the housing parts are swingably connected to the support arm at the one end via a spring-elastic mechanism by which a biasing force is applied upon the housing parts as to seek a position in which the housing parts are deflected inwards in an area confronting the functional unit.

13. The surgical instrument of claim 12, wherein the spring-elastic mechanism includes two plate-shaped spring arms and two end pieces formed integrally with the spring arms in one-to-one correspondence and configured for attachment to the support arm at the one end, one of the spring arms connected to one housing part and the other one of the spring arms connected to the other housing part.

14. The surgical instrument of claim 13, wherein the spring arms define a theoretical pivot point for allowing an outward deflection of the housing parts.

15. The surgical instrument of claim 1, and further comprising a stop mechanism, located at the rear end of the housing parts and projecting into a slot of the support arm, for securing the housing parts against a lateral movement relative to the support arm.

16. The surgical instrument of claim 1, wherein the operating member is a clamping element securely fixed in place in the functional unit, said functional unit having a tube, which is operatively connected to the adjusting member and so configured that the tube is moved in axial direction relative to the stationary clamping element by the rod, when the housing parts are squeezed together.

17. The surgical instrument of claim 1, wherein the operating member is a clamping element securely fixed in place in the functional unit, said functional unit having a tube and being so configured that a displacement of the adjusting member effects an inward movement of the clamping element into the tube, when the housing parts are squeezed together.

18. The surgical instrument of claim 16, wherein the clamping element has two clamping jaws which are movable towards one another in opposition to an innate spring-elastic restoring force.

19. The surgical instrument of claim 17, wherein the clamping element has two clamping jaws which are movable towards one another in opposition to an innate spring-elastic restoring force.

20. The surgical instrument of claim 1, wherein the operating member is a cutting element having two blades, said functional unit including a slotted guide mechanism for converting an axial movement of the rod into a rotation movement of one blade into a direction towards the other blade, as the housing parts are squeezed together.

21. The surgical instrument of claim 1, and further comprising an end cap mounted to the rear end of the housing parts.

